

The purpose of this amendment is to modify NASA Research Announcement (NRA) NNM12ZPS001N, for the Space Launch System (SLS) Advanced Booster Engineering Demonstration and/or Risk Reduction (ABEDRR) acquisition as summarized below.

1. Correct the NRA number reference as contained in NRA NNM12ZPS001N Amendment 1.
2. Modify NRA Section 4.2.5.2.1.2.1 to clarify that the use of non-reimbursable Space Act Agreements are not allowed.
3. Modify NRA Section 4.2.5.3.3, Specific Price Detail, to reflect "whole dollars" versus "thousands of dollars."
4. Modify NRA Section 4.2.5.4 to 1) identify where Representations and Certifications are to be provided within a proposal submission; and 2) to clarify that the Offeror is not to include additional information as an attachment to the Model Contract in order to avoid page limitations.
5. Modify specific cells within Appendix B to reflect correct values.
6. Modify formatting associated with Appendices E-1 and E-2.
7. Provide an SF33 in ".pdf" format.
8. Modify Model Contract, Clause H.15 "Evaluation of Small Business Subcontracting Goals" to clarify requirements.
9. Modify Model Contract, Attachment J-10 "Meeting and Review Requirements; Assessments of Contractor Performance," to 1) correct page numbering; and 2) identify requirements for the final briefing.

Specific changes to the NRA are further identified in the paragraphs below.

1. NRA Amendment 1 issued on February 24, 2012 incorrectly referenced the NRA number as "NNM12ZPS001" within the header on pages 2 and 3. The NRA number as contained in Amendment 1 is modified to correctly reflect "NNM12ZPS001N."
2. NRA Section 4.2.5.2.1.2.1, Space Act Agreements or Cooperative Agreements, paragraph two is modified as follows. See replacement pages 10 and added page 10a. Page 10a is added only to incorporate text which rolled over from page 10.

From: "An Offeror planning to include NASA services, facilities or equipment to support its effort may enter into separate fully reimbursable SAAs or equivalent agreements with the NASA Center(s) providing such services, facilities or equipment. The agreements shall include the tasks to be performed, facilities to be used with dates, Contractor specifications and requirements for facility modifications and/or refurbishment, and a full-cost assessment of all the work to be performed. For proposal purposes, each Offeror shall provide its own cost estimate for the requested resources if such reimbursable services have yet to be negotiated with the specific NASA Center(s). Where such agreements have been negotiated, then agreed-upon cost information shall be provided."

To: “An Offeror planning to include NASA services, facilities or equipment to support its effort may enter into separate fully reimbursable SAAs or equivalent agreements with the NASA Center(s) providing such services, facilities or equipment. Non-reimbursable Space Act Agreements are not allowed. The agreements shall include the tasks to be performed, facilities to be used with dates, Contractor specifications and requirements for facility modifications and/or refurbishment, and a full-cost assessment of all the work to be performed. For proposal purposes, each Offeror shall provide its own cost estimate for the requested resources if such reimbursable services have yet to be negotiated with the specific NASA Center(s). Where such agreements have been negotiated, then agreed-upon cost information shall be provided.”

3. NRA Section 4.2.5.3.3, Specific Price Detail, first bullet, first sentence is modified as follows. See NRA replacement page 14.

From: “Proposed price and profit expenditures in accordance with Appendices E-1 and E-2 (Element of Price Detail) in total and for each risk area in thousands of dollars, by Government fiscal year (October through September) over the contract period of performance.”

To: “Proposed price and profit expenditures in accordance with Appendices E-1 and E-2 (Element of Price Detail) in total and for each risk area in whole dollars, by Government fiscal year (October through September) over the contract period of performance.”

4. NRA Section 4.2.5.4 “Volume 4 – Model Contract,” first paragraph, is modified as follows. See NRA replacement page 15 and added page 15a.

From: “4.2.5.4 Volume 4 – Model Contract. A FFP Model Contract is provided as Attachment 1 to this NRA. The Offeror shall address the highlighted sections as contained within the Model Contract, along with any proposed deviations and exceptions, using the track changes feature or replace with an alternate contract or agreement as applicable in its entirety. The Offeror shall also provide a Statement(s) of Work, DPD (if modifications are proposed), WBS, and Subcontracting Plan with each proposal. An Offeror selected for award shall then provide an Organizational Conflict of Interest Avoidance Plan and an IT Security Management Plan. The Safety, Health, and Environmental (SHE) Plan, DRD SA-001, will be tailored during negotiations. Initial submission of the SHE Plan is required no later than 30 calendar days after award.”

To: “4.2.5.4 Volume 4 – Model Contract. A FFP Model Contract is provided as Attachment 1 to this NRA. The Offeror shall address the highlighted sections as contained within the Model Contract, along with any proposed deviations and exceptions, using the track changes feature or replace with an alternate contract or agreement as applicable in its entirety. The Offeror shall also provide a

Statement(s) of Work, DPD (if modifications are proposed), WBS, and Subcontracting Plan with each proposal. An Offeror selected for award shall then provide an Organizational Conflict of Interest Avoidance Plan and an IT Security Management Plan. The Safety, Health, and Environmental (SHE) Plan, DRD SA-001, will be tailored during negotiations. Initial submission of the SHE Plan is required no later than 30 calendar days after award. The Offeror shall include the Representations and Certifications in Volume 4 – Model Contract. The Offeror shall not include additional information within Volume 4 – Model Contract as an attachment in order to avoid specified page limitations.”

5. NRA, Appendix B, Sheet 1.2, cell E29, and Sheet 1.5, cells E5 and G5, are modified to reflect correct values. NRA, Appendix B has been updated in its entirety and is available through the secure technical library. For access to the secure technical library, please refer to NRA, Section 1.3, Proposal Preparation.

6. NRA, Appendices E-1 and E-2, are modified to correct formatting issues and have been updated in their entirety. Microsoft Excel versions of Appendices E-1 and E-2 are available on Government Point of Entry (FedBizOpps), NASA Acquisition Internet Service (NAIS), and the NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES).

7. NRA, Attachment 1, Model Contract, SF33 is hereby provided in “.pdf” format and is available on FedBizOpps, NAIS, and NSPIRES.

8. NRA, Attachment 1, Model Contract, Clause H.15 “Evaluation of Small Business Subcontracting Goals,” last paragraph, is modified as follows. See replacement page H-10.

From: “The Offeror shall make an independent assessment of the small business subcontracting opportunities and are encouraged to propose on exceeding the stated goals where practical. The Offeror shall submit an acceptable Small Business Subcontracting Plan as required by FAR 52.219-9 Alternate II, reflecting the above goals prior to contract award which shall be incorporated into any resulting contract.”

To: “The Offeror shall make an independent assessment of the small business subcontracting opportunities and are encouraged to propose on exceeding the stated goals where practical. The Offeror shall submit an acceptable Small Business Subcontracting Plan meeting the requirements of FAR 52.219-9 Alternate II, and reflecting the above goals prior to contract award. The Small Business Subcontracting Plan shall be incorporated into any resulting contract.”

9. Model Contract, Attachment J-10 “Meeting and Review Requirements; Assessments of Contractor Performance,” is modified as follows to 1) correct page numbering; and 2) incorporate the following subparagraph at the end of Section 1 entitled “Meetings and Reviews.” See replacement pages J-10-1 through J-10-4.

"Final Briefing

The final briefing will summarize the results and outcomes of the SLS ABEDRR effort as detailed in the Final Management and Technical Report (DRD MA-002). The briefing will be held at (*To be proposed by Offeror) and is expected to last one day."

10. The following pages of the NRA NNM12ZPS001N solicitation are revised/added pages as attached hereto and made an inseparable part thereof.

Revised Pages

NRA: 10, 14, 15

Model Contract: H-10

Model Contract, Attachment J-10: J-10-1 through J-10-4

Added Page

NRA: 10a, 15a

11. The amendment consists in its entirety of Standard Form 30, pages 2 through 5, and the revised/added pages listed in paragraph 10 above. No other changes are incorporated at this time. All other terms and conditions of the NRA will remain in full force and effect.

requirement modification and its affordability improvement to the Offeror's Advanced Booster concept as well as to the overall SLS Program affordability within the Affordability Plan.

4.2.5.1.3.1 DDT&E Rough Order of Magnitude (ROM) Cost and Schedule. The Offeror shall submit a cost and schedule ROM for its Advanced Booster concept for DDT&E, production, operations, and retirement using a cost model tool and in-house cost estimates. Costs shall account for affordability strategy, systems integration, Contractor fee, program support, contingency/margin, and vehicle integration costs. The Offeror shall provide pertinent GR&As.

4.2.5.8 Volume 2 – Intrinsic Merit

4.2.5.2.1 Management Approach. The Offeror shall submit a description of its management approach involving interactions among the various individuals or other organizations, its plans for distribution of responsibilities, and arrangements for ensuring a coordinated effort.

4.2.5.2.1.1 Qualifications of Team. The Offeror is responsible for assembling a qualified team to execute this effort, supervise the work, and participate in the conduct of the effort regardless of whether or not the team member is compensated under the award. The Offeror shall submit a description of its team and rationale for each team member's qualification.

4.2.5.2.1.2 Teaming Arrangements. An Offeror who proposes to use NASA facilities or services shall submit a description of its teaming arrangement for the execution of the proposed effort. The Offeror shall submit signed SAAs or letters of intent for SAAs with its proposal. The Offeror shall submit information on all teammates, partners, or other subcontracted effort performing in excess of \$5,000,000 of the total proposed effort per Appendix D, Subcontractor Information. The Offeror shall meet the small business goals as contained in Special Clause H.15, Evaluation of Small Business Subcontracting Goals, of the Model Contract.

4.2.5.2.1.2.1 Space Act Agreements or Cooperative Agreements. To the extent the Offeror requests access to unique NASA resources and technologies such as spaceflight expertise, lessons learned, facilities, spacecraft equipment or other Government property to support its proposed efforts, such NASA resources and technologies shall be identified in the Model Contract Subcontracting Plan. Proposals should identify potential impacts and workarounds if the proposed resources are not available within the price and schedule assumed by the Offeror in its proposal.

An Offeror planning to include NASA services, facilities or equipment to support its effort may enter into separate fully reimbursable SAAs or equivalent agreements with the NASA Center(s) providing such services, facilities or equipment. Non-reimbursable Space Act Agreements are not allowed. The agreements shall include the tasks to be performed, facilities to be used with dates, Contractor specifications and requirements for facility modifications and/or refurbishment,

and a full-cost assessment of all the work to be performed. For proposal purposes, each Offeror shall provide its own cost estimate for the

4.2.5.3.2.5 NASA funding may not be used for foreign research efforts at any level, whether as a collaborator or as a subcontractor. The direct purchase of supplies and/or services, which do not constitute research, from non-U.S. sources by U.S. award recipients is permitted. Additionally, in accordance with the National Space Transportation Policy, use of a non-U.S. manufactured launch vehicle is permitted only on a no-exchange-of-funds basis.

4.2.5.3.2.6 Electronic copies of the Offeror's price proposal shall be prepared and submitted in Microsoft Office 2007 applications (Word, Excel, and Power Point). The Offeror shall not remove the functionality of the Excel spreadsheets that are submitted in the electronic copy of the Price Volume. All electronic files associated with the Price Volume shall not contain hidden formulas, tables, and shall not be locked or protected. Any "hard values" shall be explained and supported. The formats for pictures, drawings, figures, etc., shall be readable by Microsoft Office Word 2007 edition and Microsoft Office Excel 2007 edition.

4.2.5.3.2.7 The Offeror and its major subcontractors shall submit Price proposals in two formats, hard copy bound format and electronic format. In the event of a discrepancy between the hard copy and the electronic format, the hard copy will be considered the intended text. The electronic submission shall be compatible with the software specified above.

4.2.5.3.3 Specific Price Detail. This section shall contain a summary of labor hours and other information supporting the proposed price. The following types of information are specifically required in this summary:

- Proposed price and profit expenditures in accordance with Appendices E-1 and E-2 (Element of Price Detail) in total and for each risk area in whole dollars, by Government fiscal year (October through September) over the contract period of performance. Therefore, the Offeror shall provide pricing data in accordance with Appendix E-1 for the total proposed effort and a separate Appendix E-1 for each stand alone EDRR proposed. Major subcontracted pricing data shall be provided in accordance with Appendix E-2 for the total proposed effort and a separate Appendix E-2 for each stand alone EDRR proposed. Additional cost elements may be included if necessary to reflect the Offeror's cost accounting structure. Assume the following dates for purposes of price phasing:
 - Authority to Proceed (ATP) October 1, 2012
 - End of Period March 31, 2015
- A listing of all key GR&As having significant impact on the proposed price. This listing includes resources requested from the Government (e.g., Government-furnished equipment and property, including estimated costs if required for Offeror's technical approach) and key technical and management requirements driving price.

- A clear explanation of cost estimating relationships for management, systems engineering, and all other such administrative costs when performing single EDRRs versus multiple EDRRs (where cost savings would occur if multiple EDRRs are selected for negotiation). Offeror's format is acceptable.
- The price of each EDRR as "free standing" to allow for award of a single EDRR at the proposed price. Therefore, for each EDRR, the Offeror shall submit a complete set of cost and price data in accordance with Appendices E-1 and E-2.
- A summary table converting productive labor hours to equivalent people (EP) for the prime and major subcontractors. The Government's definition of an EP is: One EP equals 2,000 available work hours per year. Offeror shall include an explanation of productive versus non-productive labor hours.

4.2.5.3.4 Deviations from Price Volume Requirements. Any deviations from the requirements in this Price Volume shall be fully explained and supported. Any accounting changes, management challenges, cost sharing, corporate resource arrangements, or other competitive features without detailed explanation and proposed language to be incorporated into any resultant contract will not be considered. This requirement also applies to any major subcontractor.

4.2.5.3.5 Additional Price Requirements if Selected for Award.
The following types of information are specifically required in this summary:

- A summary table listing all labor categories used in the proposal and its associated direct labor rates, along with escalation factors used for each year of the acquisition.
- A summary table listing all indirect rates used in the proposal for each year of the acquisition and the calendar month in which the rates change annually. Provide a conversion of Contractor fiscal year rates to Government fiscal year rates and a basis of indirect rates used.
- A detailed WBS at a sufficient level to reflect a complete understanding of the work selected.
- Detailed Basis of Estimates (BOEs) to support price and labor hour data for work awarded. BOEs shall include the methodologies used by the Offeror and major subcontractors in estimating the labor skill mix by labor hours, other direct cost, materials, etc.

4.2.5.4 Volume 4 – Model Contract. A FFP Model Contract is provided as Attachment 1 to this NRA. The Offeror shall address the highlighted sections as contained within the Model Contract, along with any proposed deviations and exceptions, using the track changes feature or replace with an alternate contract or agreement as applicable in its entirety. The Offeror shall also provide a Statement(s) of Work, DPD (if modifications are proposed), WBS, and Subcontracting Plan with each proposal. An Offeror selected for award shall then provide an Organizational Conflict of Interest Avoidance Plan and an IT Security Management Plan. The Safety, Health, and Environmental (SHE) Plan, DRD SA-001, will be tailored during negotiations. Initial submission of the SHE Plan is required no later than 30 calendar days after award. The Offeror shall include the Representations and Certifications in Volume 4 – Model

Contract. The Offeror shall not include additional information within Volume 4 – Model Contract as an attachment in order to avoid specified page limitations.

H.15 EVALUATION OF SMALL BUSINESS SUBCONTRACTING GOALS

A small business subcontracting goal equivalent to 10.5% of the total contract value has been established for this procurement. Of the 10.5% small business subcontracting goal established, the following individual goals have been established:

Small Businesses	10.5%
Small Disadvantaged Business Concerns (Includes SDB's in both targeted and non-targeted areas.)	4.0%
Women Owned Small Business Concerns	2.5%
Historically Underutilized Business Zone (HUBZone) Small Business Concerns	0.5%
Veteran Owned Small Business Concerns	0.5%
Service-Disabled Veteran-Owned Small Business Concerns	0.3%
Historically Black College or University and Minority Institution (HBCU/MI)	0.2%

The Offeror shall make an independent assessment of the small business subcontracting opportunities and are encouraged to propose on exceeding the stated goals where practical. The Offeror shall submit an acceptable Small Business Subcontracting Plan meeting the requirements of FAR 52.219-9 Alternate II, and reflecting the above goals prior to contract award. The Small Business Subcontracting Plan shall be incorporated into any resulting contract.

(End of Clause)

H.16 ADVANCED AGREEMENT IN RIGHTS IN DATA

* To be proposed by Offeror.

The following constitutes an advanced agreement between the Government and the Contractor regarding the interpretation of clause FAR 52.227-14, Rights in Data—General, Alternates II and III:

(a) In addition to specific deliverables required to be furnished under this contract, the Contractor shall deliver all data (including computer software) used, furnished, or developed under this contract to the Government upon written request in accordance with FAR Clause 52.227-16, Additional Data Requirements.

(b) The following categories of data (including computer software) shall be delivered to the Government with unlimited rights. To the extent a conflict exists between data categories listed in this paragraph (b) and data items listed in paragraphs (c) and (d) below, this paragraph (b) shall control.

Contractor Data

1. *

ATTACHMENT J-10

MEETING AND REVIEW REQUIREMENTS; ASSESSMENTS OF CONTRACTOR PERFORMANCE

1. **MEETINGS AND REVIEWS:** Below are the minimum performance requirements for the Kickoff, Quarterly Technical Interchange Meetings (TIMs), and (if applicable to the Statement of Work (SOW)) Test or Demonstration Readiness Review(s) (TRR) that the Contractor shall perform in execution of this contract which are in addition to Attachment J-2, Data Procurement Document (DPD).

Kickoff Review

The Kickoff Meeting will ensure that the SLS Advanced Booster Engineering Demonstration and/or Risk Reduction (ABEDRR) Task requirements are properly formulated and correlated with the Project and Program objectives. The Contractor shall describe the negotiated SOW and how all work will be planned to effectively accomplish the engineering demonstration(s). All applicable Contractor processes, such as systems engineering and technical/schedule management, should be addressed. The Kickoff review will be held at (*To be proposed by Offeror) and is expected to last one day.

Quarterly TIMs

Quarterly TIMs will be conducted for the entire contract period of performance beginning approximately three months after the ABEDRR Kickoff Review. The TRR or other Contractor proposed milestone may be conducted in lieu of a TIM. At a minimum, the content /agenda for the TIMs should cover: 1) Work accomplished since previous TIM, including a report of overall cost, technical and schedule performance, 2) Work planned for next quarter, 3) Current problems/risks which are impeding or are likely to impede performance or impact program schedule or cost, and proposed corrective action, 4) Special topics as defined by the Government. The Contractor should assume half of the TIMs will be held at the Contractor's facility and the other half at Marshall Space Flight Center (MSFC) and are expected to last 1-2 days.

Test or Operational Readiness Review (TRR/ORR)

A TRR ensures that the test article, test facility, support personnel, and safety/test procedures are ready for testing and data acquisition, reduction, and control. The objectives of the testing should be clearly defined and documented and all test plans approved by the Contracting Officer's Representative (COR). Configuration of the system under test should be defined and agreed to by the COR. All known system discrepancies should be identified and disposed in accordance with agreed upon plan. All required test resources – people, facilities, test articles, test instruments, and any other test enabling products – should be identified and are available to support the test. Roles and responsibilities of all test participants should be defined and agreed to by the COR. Test contingency planning should be accomplished and all personnel should be trained. The TRR will be held at the Contractor's facility or at the test facility if different and is expected to last 1-2 days.

An ORR ensures the actual system characteristics and the procedures used in the system or end product's operation and ensures that all system and support hardware, software, personnel, procedures, and end user documentation accurately reflect the deployed state of the system. All operational supporting and enabling products that are necessary for the nominal and contingency operations have been tested and delivered/installed at the site necessary to support operations and training has been provided to the users and operators on the correct operational procedures for the system. Any operational contingency planning has been accomplished and all personnel have been trained. The ORR will be held at the Contractor's facility or other facility if different and is expected to last 1-2 days.

Final Briefing

The final briefing will summarize the results and outcomes of the SLS ABEDRR effort as detailed in the Final Management and Technical Report (DRD MA-002). The briefing will be held at (*To be proposed by Offeror) and is expected to last one day.

2. PERFORMANCE REQUIREMENTS SUMMARY (PRS): The table below defines the PRS for the tasks detailed above. Not all efforts under this order are included in the PRS. Lack of inclusion in the PRS in no way relieves the Contractor of the obligation to perform all delineated tasks in the SOW.

2.1 Maximum Allowable Incident Rate (MAIR)*: The MAIR is the measure used by the Government to evaluate the Contractor's progress on a monthly basis, and for the Kickoff, Quarterly TIMs, and TRR/ORR, if applicable. The MAIR is the incident rate that, if exceeded, indicates the Contractor's performance is unsatisfactory. The MAIR for each work environment is specified in the Performance Requirements Summary below.

2.2 Reduction Methodology: Any reductions taken in milestone payment will be calculated by applying the deduction percentage to the total milestone payment value for each evaluation period as reflected in B.3.

For example, if the milestone payment is \$1,000,000 for a particular period, the following may be applied: The weight for Requirement 2.0 is 75%, which is then multiplied by the 10% maximum deduction for a milestone (\$1,000,000 milestone payments x 10% = \$100,000), which equals \$75,000. Therefore, the milestone payment for this period would be reduced by \$75,000 if it is determined that the Contractor fails to make adequate schedule progress.

Reductions in milestone payments will be by unilateral modification by the Contracting Officer and not be subject to the Disputes clause, 52.233-1, Alternate I, in Section I of this contract.

2.3 Recapture of Reduced Milestone Payments: The Contractor may, solely at the Government's discretion, recapture the reduction in milestone payment(s) from preceding milestone(s) by alleviating the condition of the reduction.

For example, the Contractor fails to make adequate progress towards a major milestone and has a reduction(s) to a milestone payment(s). The Contractor ultimately completes the milestone without impact to the total effort. The COR/CO subsequently evaluate the Contractor's performance and inform the Contractor by letter accompanied by a unilateral administrative modification, which adjusts the next milestone payment showing a Government decision to increase the subsequent milestone payment.

The Contractor's lack of progress will be determined, at the sole discretion of the Government, as cause for default in accordance with the Default (Fixed-Price Research and Development), 52.249-9, in Section I of this contract.

PERFORMANCE REQUIREMENTS SUMMARY

REQUIREMENT	PERFORMANCE STANDARD	MAIR*	METHOD OF SURVEILLANCE	WEIGHT	DEDUCTION % MILESTONE PAYMENT
1.0 Submission of Reports and Data	The Contractor shall assure the timely and accurate submission of required deliverables in accordance with the DPD.	Incidents include but are not limited to each delinquent or unacceptable deliverable.	Review of Deliverables.	25%	10% Maximum
2.0 Failure to make adequate progress as reflected in the Contractor's program/project schedules or COR/CO review	The Contractor shall assure scheduled milestones/tasks are on-time or within two weeks of baseline.	Incidents include but are not limited to each late milestone.	Review of Contractor's progress.	75%	